

Department of Clinical Research Informatics (DCRI)
Clinical Center, NIH

Subject: Backup Processes for Unavailability of Electronic Clinical Systems

Purpose:

The purpose of the policy is to maintain the integrity of clinical and research information and processes and to insure the continuation of clinical care and research studies during the absence of available electronic/automated clinical systems.

Background:

The prevention, early detection and effective management of a scheduled or unscheduled CRIS down event are critical to assuring quality patient care at the Clinical Center (CC). To manage these events effectively, the Department of Clinical Research Informatics (DCRI) must identify the various roles and responsibilities both DCRI and The Department of Network Applications (DNA) have in maintaining CRIS, MIS and Ancillary Systems. While DNA is responsible for providing the hardware and network infrastructure, DCRI is responsible for maintaining the CRIS and MIS Systems. Scheduled System downs require coordination between multiple departments and people, when possible the CRIS and MIS System down will occur at the same time. Provided in the guidelines below are: a checklist for planning scheduled system downs, description of the systems that define CRIS and MIS, and the description of the systems affected by CRIS and MIS Downs.

Policy:

Clinical and research information management will be maintained with a backup manual process when electronic systems and information are not available. Defined procedures and guidelines will be followed. Involved informatics and technical staff will coordinate communications with each other, with clinical users and with administrators as required.

Attachments:

Policy Guidelines

- Appendix A Organizational Role & Assigned Responsibilities/ List Serv E-mail addresses
- Appendix B Flyers- CRIS, MIS & LIS Down / List of Manual Forms to Use for Documentation/
- Appendix C Email template of Downs- Standardized terminology to send out.
- Appendix D Nursing and Patient Care Related Guidelines For Scheduled Down
- Appendix E Communication of System Down Time Roles and Responsibilities
- Appendix F System Descriptions, Impact During CRIS/MIS Downs, & Assigned Responsibilities
- Appendix G Ancillary System Descriptions, Impact During CRIS/MIS Downs, & Assigned Responsibilities

References:

DNA Disaster Recovery Plan: located in the Data Center Operations Department, room B1N243.

Approved: _____
Stephen Rosenfeld, MD, MBA
Chief, Dept. of Clinical Research Informatics

Implemented: 6/01

Revised: 10/03; 11/03; 07/04; 8/04;11/04; 2/05

Guidelines:

Backup Processes for Unavailability of Electronic Clinical Systems

1.0 Scheduled System Downs -No User Access to CRIS Core & No Printouts.

There are no scheduled down times for systems. When they occur, they are related to maintenance upgrades and/ or system problem solving. The down time procedures are defined in the following section according to roles. The procedure is also defined in section 3.0.

1.1 Down Preparation- Clarification of Roles

- A. The Chief of Networking and Server Support and /or the Clinical Systems Architect utilizing DCRI and/ or DNA staff will coordinate time with the following people (See Appendix A for organizational assignments) based on the reason for the system down .

The Chief, Networking and Server Support will send an e-mail to the CC Systems Notifications E-mail List.

DNA

- Team Leader of Computer Operators

DCRI

- Chief, DCRI
- Interface Administrator
- Ancillary System Administrator
- Operational System Lead
- Hospital System Database Manager
- Triage Analyst
- DCRI Clinical System Architect

Diagnostic Radiology Department- Imaging Science Division

- Radiology Information System Administrator

Department of Laboratory Medicine (DLM)

- Lab Manager
- Lab Information System Administrator
- Back-up Administrator

Department of Transfusion Medicine (DTM)

- Lab Information System Administrator
- Quality Assurance Specialist
- Transfusion Services Supervisor

Nursing and Patient Care Services (NPCS)

- NPCS Chief
- NPCS Service Chiefs
- NPCS Quality Officer

(Note: Refer to Appendix A.1 for individual's name for the roles listed above)

Nutrition

- Chief Nutrition Department
- Chief of Clinical Nutrition Services
- Assistant Chief of Food Services
- Registered Dietician Informaticist

Pharmacy

- Chief
- QA Pharmacist
- Special Projects Pharmacist

B. DCRI Interface Administrator and Ancillary System Administrator will notify the Ancillary Departments that utilize interfaces of the proposed time by phone call and then send an e-mail to the CC-ISD IE Notice List Serv E-mail List identifying the date, time and reason for the scheduled down.

C. DCRI Triage Analyst has the role for communicating the down time during regular working week hours. Communication as to what service is down and the duration of the down time needs to be relayed. The procedures for system users during the down time are the same whether or not there is less than or greater than 24 hour notification; however, the communication role of the Triage Analyst differs. They will notify the following people of the down time utilizing e-mail via the CC System Notification List Serv (reference Appendix A):

- Departmental staff listed above in section 1.1A (reference Appendix A.1 for staff's role and name)
- Clinical Center Nursing Staff (reference Appendix A.2 for List Serv E-mail addresses)
- Clinical Center Department of Transfusion Medicine
- Clinical Center DCRI Government Staff
- Clinical Center CRIS Staff

1. 24 hour Advanced Notice:

If the planned down has more than a 24 hour notice, during a regular working week, it will be communicated by having the Triage Analyst distribute flyers to the Nurse Managers' mailboxes and e-mail CC nursing staff via the CC System Notification List Serv. A sufficient quantity of flyers must be provided to the Nurse Managers, as the managers may cover more than one inpatient unit and/ or clinic (See Appendix B, C & D for sample flyers, communication of down and nursing guideline packet).

2. Less than 24 hour Advanced Notice

For Planned down times, during a regular working week, where this is less than 24 hour advanced notice, the Triage Analyst will e-mail the CC nursing staff via the CC System Notification List Serv. If there is more than a two hour notice then the Triage Analyst will also distribute flyers, in person, to all units and clinics. Also an e-mail will be sent to the Departmental staff listed above in section 1.1A.

Nurse Manager Mailboxes are located in the following locations:

- 7D nursing corridor - Critical Acute Patient Care Services
- 7D nursing corridor - Adult Pediatric Behavioral Health Services
- 1C243- Ambulatory Care Services (12 clinics)

Refer to the Nursing & Patient Care Services Organizational Chart as a resource when distributing flyers to the nurse managers. It can be found at the following URL link: <http://www.cc.nih.gov/nursing/whoweare/orgchart.html>

- D. CRIS Analyst On-Call Assumes the responsibilities of the Triage Analyst during evenings, nights, holidays and weekends. The CRIS Analyst On-Call will follow the same notification instructions as the Triage Analyst in Section 1.1 B. In addition, the CRIS Analyst On-Call will contact the Nursing Administrative Coordinator, via the page operator.

2.0 Schedule System Downs -No Interface Transactions

There are no scheduled maintenance down times. They occur as needed. The best times to perform these needed maintenance activities requiring down time are negotiated with the affected departments. This is defined in section 2.2.

2.1 Communication of Down Time

The DNA Team Leader of Computer Operators or designee is responsible for communicating down time information when the system is down and when the system is operational

- A. When the system is down, the team leader :
1. Directs the NIH Page Operator to overhead page CRIS down 30 minutes before and at the time of down.
 2. Notifies the Computer Support Staff at 301 496- 8400, during regular working hours. Clarifying what services are down (if this information is known).
 3. Notifies the CRIS Analyst On-Call via the Page Operator (during evenings, nights, holidays and weekends only).
- B. When the system is operational, the team leader:
1. Directs the NIH Page Operator to overhead page CRIS is operational.
 2. Notifies the Computer Support Staff at 301 496- 8400, during regular working hours.
 3. Notifies the CRIS Analyst On -Call via the Page Operator Operator (during evenings, nights, holidays and weekends only).

2.2 Time Coordination

Communication between the DCRI Interface Administrator and the Ancillary System Administrator will occur when selecting/ coordinating the scheduled down time. Best Times are:

- DLM 1pm – 3 pm, 1am-3am
- DTM 1am-3am
- DRD prefers after 4pm
- Nursing - prefers 1am; however, during business hours weekdays and weekends, the least disruptive time would be 11am or 4pm.
- Nutrition 1am-3am
- Pharmacy- need to address each down time on a case by case basis
- All Departments 6:30 pm – 8:00 pm

2.3 Notification To Ancillary Departments Of Proposed Down Time

- A. DCRI Interface Administrator and Ancillary System Administrator will notify the Ancillary Departments that utilize interfaces of the proposed time through the following means:
 - Phone call
 - E-mail to the CC-ISD IE Notice List Serv E-mail List identifying the date, time and reason for the scheduled down.
- B. Individual Departments determine if they need to call stat results and if they need to follow their own Interface Down Procedures and use manual procedures.
- C. Refer to Appendix D for the affects of down time on clinical departments interactions with patient care units.

3.0 Unscheduled System Downs

3.1 Down Initiation

DNA Computer Operation staff follows the defined Disaster Recovery Plan, which can be found in the Data Center Operations Department located in room BIN243 for emergency and/or unexpected downs. The DNA contact is the Team Leader of Computer Operators.

3.2 Communication of Down Time

Refer to Appendix E for specific procedures related to individual systems being down.

- A. Depending on the source that identifies the problem, communication of the down is initiated either through DNA Computer Operation staff contacting DCRI or DCRI contacting Computer Operation staff.
If the system is expected to be down for more then 15 minutes, the DNA Team Leader of Computer Operators or designee will:
 - 1. Direct the NIH Page Operators to make an overhead page CRIS that down and then every 15 minutes repeat the overhead announcement that the system is down until it becomes operational.
 - 2. Send an e-mail to CC System Notification and CC-ISD IE Notice List Serv identifying that the CRIS is down (see Appendix C).
 - 3. Notify the Computer Support Staff at 301 496- 8400, during regular working hours.
 - 4. Notify the CRIS Analyst On –Call via the Page Operator Operator (during evenings, nights, holidays and weekends only).
- B. Involved departments are notified specifically by DCRI or DNA. Judgment is used in contacting other affected departments, based on the situation of the down time.
 - 1. DLM, DTM, and Radiology are to be called if the system is expected to be down more then 15 minutes, during regular working hours.
 - 2. The Triage Analyst or CRIS Analyst On-Call through e-mail, will contact and update the Chief, Nursing and Patient Care Services or Designee if the down status of greater than 30 minutes. Note: During evening, nights, holidays and weekends the designee is the Administrative Coordinator.

3. DCRI Computer Support Staff/ DCRI staff will call individual units, clinics, Radiology and DLM of the down status greater than 30 minutes, during regular working hours.
- C. When CRIS is operational, the DNA Team Leader of Computer Operators or designee will notify the NIH Page Operators to overhead page that CRIS is available for use.
- D. DNA Team Leader of Computer Operators or designee sends an e-mail to the **CC System Notification and CC-ISD IE Notice List Serv** identifying the reason for the unscheduled down, time the system went down and when it came back. A team of DNA technicians will visit every patient care unit to make sure the central processing units (CPUs) are fully operational following both planned and unplanned down times during business hours. During the evening tour, on weekends and holidays the DNA team will call the patient care units to confirm that the CPUs are operational.
- E. Triage Analyst, DCRI Computer Support Staff or DCRI On-Call Operational System Staff (as designated) will send out an e-mail to the staff listed in Section 1.1.B via e-mail to the **CC System Notification** of the down status if the following criteria occurs:
 1. The system is expected to be down for 30 minutes.
 2. The system has been down for 30 minutes.

3.3 Conversion to Use of Manual Documentation and Communication Forms For Prolonged CRIS Down

- A. Refer to Section 3.0 for use of manual documentation and communication forms, as the same interventions will occur for an unplanned prolonged down.
- B. Extended unscheduled downs require initiation of the DNA defined Disaster Recovery Plan, which can be found in the Data Center Operations Department, located in room B1N243.

4.0 Conversion to Use of Manual Documentation and Communication Forms for Prolonged CRIS Down

If the CRIS is down for a prolonged period of time, 30 minutes or greater, DCRI will communicate this information to the Chief, Nursing and Patient Care Services or her Designee, to determine the strategy for initiating the manual procedure. The downtime procedures can be initiated for all CRIS activity or specific functionalities such as order entry, result retrieval, medication administration record (MAR/Worklist Manager) and/or clinical documentation. One or more of these functions may be down. The extent of what activities are working and what needs to be converted to down time must be communicated.

Planned prolonged down will be communicated via a flyer from the Triage Analyst. The flyer states the reason and approximate time duration of the planned down. Unplanned down will be communicated by the CRIS Analyst On-Call.

4.1 Manual Documentation

A. Order Entry

When order entry is not functioning, the user may not be able to enter orders into CRIS or the orders may not generate a task on the worklist manager (which includes the MAR).

When either situation occurs the user may be instructed to use manual order entry procedure. This prevents duplicate orders from appearing on the MAR if the user inadvertently re-entered the order.

B. Clinical Documentation

Users may be instructed to use manual procedures even though CRIS allows the entering clinical documentation data

4.2 Guidelines and manual forms

Guidelines and manual forms for ordering and documenting, are available on every inpatient unit and clinic. The nurse managers for the inpatient units and clinic are responsible for keeping the forms updated and in stock. DLM and DTM will be notified by Ancillary System Administrator and/ or the Interface Administrator to accept paper requests and call stat results.

Manual ordering and documentation forms can be accessed from Medical Records Monday- Friday 8:30 AM- 5:30 PM.

The following forms (Medical Record) are to be used for manual ordering and documentation:

- Ancillary Tests- Imaging Services/ECG/ Dental (NIH- 2353-3)
- Doctor's Orders/ Medical records (STANDARD FORM 508)
- Clinical Laboratory Ordering Record (NIH- 2353-1)
- Inpatient Progress Notes- (NIH-509 or STANDARD FORM 509)
- Outpatient Progress Notes (NIH-532-1)
- Nursing Notes- to be used for inpatients only (STANDARD FORM 510)

4.3 **Specimen Labels**

Labels used during the down time must include the patient's name, medical record number and date of birth. There are three types of labels:

- CRIS lab labels (if available), are to be used to label any specimens being sent to the lab. These labels include bar coding on them. The coding has a unique identifier of what test needs to be done and is read by the lab system.
- Admission labels (no bar code) – are to be used if there are no CRIS lab labels. These are preprinted with the required patient information. If the function to view orders and a lab order exists in the CRIS system, you may write the Order ID number on the admission label. This order ID number identifies the specific test to be preformed and resulted on the specimen being sent down to the lab.
- Handwritten labels are to be used if admission labels are not available.

5.0 MIS System Downs

MIS is used for Admission Discharge Transfer (ADT) and Clinical Appointment System (CAS) transactions. MIS will send ADT patient information over to CRIS. CAS is the CC appointment scheduling system and will not send information over to CRIS. When possible the CRIS and MIS System down will occur at the same time.

5.1 CRIS Impact when the MIS System is down and CRIS is operational

A. Any Inpatient Admission

MIS will not send patient admission information to CRIS as the transaction is interfaced from MIS to CRIS. Admitting a patient must first be initiated through the ADT system before a visit can be created in CRIS. Pre-admit orders in CRIS should not be released until the MIS system is operational and the inpatient visit has been created.

New orders and/or documentation entered while MIS is down need to follow the procedures for manual entry until the CRIS system and MIS system are both operational (See 3.0 Conversion to Use of Manual Documentation and Communication Forms for Prolonged CRIS Down).

B. Transfer to another location in the hospital

The Patient's location will not change in CRIS. The patient can physically transfer to another unit for care; however, the order requisitions and labels will continue to print in the patient's location identified in CRIS prior to MIS going down. Staff will need to communicate with the new location and forward order requisitions and labels accordingly.

C. Visit Type

If the patient is discharged while the MIS system is down the current inpatient visit will not change to an outpatient visit until MIS is operational. If the patient goes on pass while the MIS system is down the current inpatient visit will not change to a leave of absence until MIS is operational.

5.2 Communication when MIS is down and CRIS is operational If ADT is down (TO MIS, ADT FROM MIS2):

If unable to restart the ADT interface within 10 minutes, DNA Computer Operations will call:

1. The Interface Administrator or on-call Interface Analyst.

If the system has not been restarted within 15 minutes, DNA Computer Operations will:

1. Call the NIH Page Operator and have them make an overhead announcement that the ADT Interfaces are down. This announcement should repeat every 15 minutes until the system is operational.
 - a. Message: "The ADT Interface is down."
 - b. If users call operations, the CRIS on-call analyst or Computer Support Staff : You can state that the down affects discharges and transfers from CRIS but will queue up and then load to MIS when the interface becomes operational. Users can still use CRIS.
2. Call DCRI Computer Support Staff (496-8400) and give status every 30 minutes.

3. Send an e-mail to CC System Notification and CC-ISD IE Notice List Serv identifying that the interfaces are down. This gets the message to all other interfaced groups (see Appendix C).
4. Call the Triage Analyst (during regular working hours) or the CRIS Analyst On-Call (during evening, nights, holidays, and weekends) with status. They will send out an e-mail through the CC System Notification and CC-ISD IE Notice List Serv, to users communicating down status if it is greater than 30 minutes.
5. Call DNA's Chief of Networking and Server Support or DCRI's Clinical System Architect every 30 minutes (during regular working hours). The on-call interface analyst will use their best judgment to call during evening, nights, holidays, and weekends.
 - a. DNA's Chief of Networking and Server Support or DCRI's Clinical System Architect will call the Chief Informatics Officer, DCRI Deputy Chief, and Physician Informaticist, to give status updates every 30 minutes (during regular working hours).
6. Send e-mail to CC System Notification and CC-ISD IE Notice List Serv when ADT is operational.
7. Call the NIH Page Operator to make an overhead announcement that the ADT interfaces are operational.

If ADT is down (TO_MIS, ADT_FROM_MIS2) for more than 2 hours the team will consider calling a down for all of SCM and notifying Chief Informatics Officer, DCRI Deputy Chief, and Physician Informaticist.

6.0 System Descriptions, Responsible Parties and Customer Impact

CRIS and MIS System Components: Equipment and Network That Comprise CRIS and MIS.

The following tables reflect the impact on system components or servers when the CRIS or MIS system is not operational

Appendix C – C.1 Lists the designated person and contact information for specific roles and responsibilities. C.2 Lists the Organizational List Serv E-mail addresses for key players involved in the down time communication process.

Appendix F – The following table reflects the impact on the various system components and/ or servers if the CRIS Core and/ or MIS system is not operational. Also included are the Departments and individuals responsible for the various system components or servers.

Appendix G - The following table reflects the impact on the various ancillary clinical systems if the CRIS Core and/ or MIS System is not operational. Also included are the Departments and individuals responsible for the various system components or servers.

Appendix A

Organizational Roles, Assigned Responsibilities and List Serv Addresses

A.1. Organizational Role & Assigned Responsibilities

Clinical Center

NIH Page Operator – (301) 496-1211

Clinical Pathology

Pathology LIS Administrator NCI/ NIH- Earle Barnes – (301) 496-0551

Department of Clinical Research Informatics (DCRI)

Ancillary System Administrator - Tim Fink – (301) 435-8370

Clinical System Architect – Jon McKeeby, D.Sc. – (301) 496-3826

Chief Informatics Officer– Steven Rosenfeld – (301) 496-3825

Deputy Chief, DCRI – Carol Romano – (301) 435-6003

Hospital System Database Manager - Tim Maloney – (301) 496-6976

Hospital System Database Manager - Myoung Lee - (301) 496-6857

Interface Administrator - Tony Barnes – (301) 496-4285

Interface Analyst – Yenshei Liu – (301) 496-6789

Operational System Lead- _____ – _____

Operational System Analyst- Myoung Lee – (301) 496-6857

Nurse Consultant- Jose Milette – (301) 496-3827

Physician Informaticist- Steve Luxenberg – (301) 496-7734

Senior Architect Developer- Steve Moore – (301) 496-8651

System Coordinator- Tom Dawson – (301) 594-9887

Triage Analysts- Rubi Defensor – (301) 435-8516

Triage Analysts- Susy Postal – (301) 594-9468

Department of Network Application

Casper Administrator – Doug Butters – (301) 496-7891

Casper Administrator – Mark Bradley – (301) 451-4682

Chief, Application Development Section – James (Jim) Pitts – (301) 496-7436

Chief, Networking and Server Support - Joyce Yarrington – (301) 594-7801

Chief, User Support Section- Bertram Brown – (301) 594-7802

Database Administrator – Jim Oseth – (301) 496-7905

Operation Manager- John Franco – (301) 496-6745

Network Engineer – Jason Chan - (301) 496-8652

Network Engineer - Kelly Neadow – (301) 496-8652

Team Leader of Computer Operators- Pam Carter – (301) 496-3844

Team Leader of Systems Administration - Dempsey Dunn – (301) 496-4712

Systems Administrator – Barrett Grieb - (301) 347-1431

UNIX System Administrator- Chris Klein – (301) 402-0974

UNIX System Administrator- Tadele Yenegeta – (301) 496-9243

DNA Operations On-Call Computer Room – (301) 496-7525

Department of Laboratory Medicine

Back-up Administrator- Chung-Hee Row – (301) 496-3386

Lab Manager- Peggy Spina – (301) 496-5668

Lab Information System Administrator-Kathy Roden – (301) 402-0584

Department of Transfusion Medicine

Lab Information System Administrator- Boyd Conley – (301) 496-4506 Quality Assurance Specialist-

James (Wade) Atkins – (301) 496-4506

Transfusion Services Supervisor- Sherry Sheldon – (301) 496-8335

Diagnostic Radiology Department- Imaging Sciences Division

Radiology Information System Administrator-Harvey McDonald - (301) 435-5269

Nursing and Patient Care Services (NPCS)

Chief, Nursing and Patient Care Services- Clare Hastings – (301) 435-3489

Refer to Organizational Chart for individual's name for the roles listed below:

Chief, Ambulatory Care Services- Karen Kaczorowski – (301) 496-2341

Chief, Critical and Acute Care Services- Laura Chisholm – (301) 496-2987

Chief, Adult, Pediatrics and Behavioral Health- Tannia Cartledge – (301) 496-4623

NPCS Quality Officer- Virginia (Ginnie) Daine- (301) 435-6196

Nurse Managers

Nursing Administrative Coordinator

The Organizational chart's URL link is: <http://www.cc.nih.gov/nursing/whoweare/orgchart.html>

Nutrition

Chief, Nutrition Department- Dave Folio – (301) 496-4981

Chief, Clinical Nutrition Services- Madeline Michael – (301) 496-3312

Assistant Chief of Food Services- Jennifer Widger – (301) 496-4981

Registered Dietician Informaticist- Leslie Haynes – (301) 402-1713

Pharmacy Department

Chief- Robert DeChristoforo – (301) 496-5477

QA Pharmacist – Bona Benjamin – (301) 402-7064

Special Projects Pharmacist- Barry Goldspiel – (301) 496-5869

A.2 Clinical Center Organizational List Serv E-mail addresses

CRIS Staff = cc-cris-staff@mail.cc.nih.gov

DCRI Government Staff= cc-dcri-Govt-staff@mail.cc.nih.gov

Department of Transfusion Medicine= cc-DTMstaff@mail.cc.nih.gov

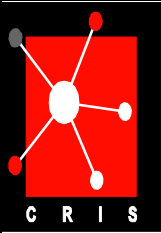
Nursing Staff = nurs@mail.cc.nih.gov

CC-ISD IE Notice = isd_ie_notice@mail.cc.nih.gov

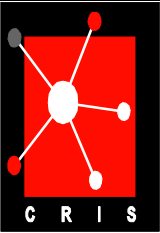
CC Systems Notification = cc-systems@mail.cc.nih.gov

Appendix B
Example of Down time Flyers /
List of Manual Forms To Use For Documentation

Figure B1. CRIS Downtime Flyer



CRIS Downtime (2 hours)



Purpose: Perform emergency maintenance on the CRIS servers and SCD workstations
When: Thursday, October 28, 2004
Time: 1:00 A.M – 3:00 A.M.

Starting at 1:00 AM (0100)

- Please begin using Downtime (Manual) procedure.
- You will not have access to CRIS or MIS.
- You can NOT enter orders, document, print or retrieve information in either system (MIS and CRIS).
- Ancillary Systems such as: RIS, LIS, ECG, PACS, CITRIX, PYXIS, Dictation/ Transcription, IDMS & more will be operational but results will not cross over to CRIS.
- Please do not send non-emergent orders on the manual ordering forms during the down period.
- Please wait and enter non-emergent orders in CRIS after CRIS becomes operational.
- You will need to call Departments to communicate the orders and obtain service.

Emergent Lab Order, Please Follow This Procedure:

1. Send the specimen to the lab with a manual Clinical Laboratory Ordering Record Form.
2. Do Not enter Emergency Orders into CRIS. The Lab will enter the orders on their end.
3. Keep a written record of the results called back to the unit.

All Other Emergent Orders Follow The Defined Manual Ordering Process By Service



(Pharmacy, Imaging Services, Transfusion Medicine, Respiratory Care, Nutrition And All Other Clinical Services)
Please use the following forms to manually order or document:

- Ancillary Tests- Imaging Services/ECG/ Dental (NIH- 2353-3)
- Medical Records/ Doctor's Orders (SF508)
- Clinical Laboratory Ordering Record (NIH 2353-1)
- Inpatient Progress Notes (SF- 509)
- Outpatient Progress Notes (NIH-532)

Thanks For Your Cooperation And Patience!


Appendix B
Example of Down time Flyers /
List of Manual Forms To Use For Documentation

Figure B2. ADT/CAS Downtime Flyer

	<h2 style="color: red; margin: 0;">1 HOUR MIS DOWN (ADT/CAS)</h2>	
<p>Transactions involving the Admission Discharge Transfer (ADT) and the Clinical Appointment System (CAS) will be down during this time.</p> <p>Purpose: Emergency Security Maintenance When: Sunday, September 12, 2004 Time: 1:00 A.M – 2:00 A.M.</p> <p>For a patient NOT in the CRIS System: <u>If Emergent Lab Order are needed follow this procedure:</u></p> <ol style="list-style-type: none">1. Send the specimen to the lab with a manual Clinical Laboratory Ordering Record Form Or CRIS generated order requisition, if available.2. Do Not enter Emergency Orders into CRIS. The Lab will enter the orders on their end.3. Keep a written record of the results called back to the unit. <p><u>Follow The Defined Manual Ordering Process By Service For All Other Emergent Orders</u> (Pharmacy, Imaging Services, Transfusion Medicine, Respiratory Care, Nutrition And All Other Clinical Services) Please use the following forms to manually order or document:</p> <ul style="list-style-type: none">• Ancillary Tests- Imaging Services/ECG/ Dental (NIH- 2353-3)• Medical Records/ Doctor's Orders (SF508)• Clinical Laboratory Ordering Record (NIH 2353-1)• Inpatient Progress Notes (SF- 509)• Outpatient Progress Notes (NIH-532) <p>For a patient <u>IN</u> the CRIS system: who is being transferred to an new location.</p> <ol style="list-style-type: none">1. Orders and labels will continue to print in the patient's CRIS location prior to MIS going down.2. Send labels and orders to the new location until MIS is operational and the transfer is sent from MIS to CRIS. <p>You Will Need To Call Departments To Communicate The Orders And Obtain Service.</p> <p style="text-align: right;"><i>Thanks For Your Cooperation And Patience!</i></p>		

Appendix B
Example of Down time Flyers /
List of Manual Forms To Use For Documentation

Figure B3. LIS Downtime Flyer

Laboratory Information System Down Time (2 hrs)		
Purpose:	LIS Upgrade	
When:	Wednesday, February 2, 2005	
Time:	3:00 PM -5:00 PM	
CRIS system will be operational!		
LAB Orders that are entered during downtime will queue up (back up) in CRIS and will not cross over to the LIS Ancillary Systems. Results from the LIS, will not cross over to CRIS until the LIS system is operational.		
<u>Emergent Lab Order ONLY, Please Follow This Procedure:</u>		
<ol style="list-style-type: none">1. Enter lab orders in CRIS.2. Send the specimen to the lab with Order Requisition. Specimen s should be labeled with the Admission labels.3. All STAT and Critical lab results will be called during downtime.4. Keep a written record of the results called back to the unit.5. When LIS system comes back up, label printer will print labels for the all queued orders during downtime or Time-Sensitive orders.		
Do not redraw specimens for orders entered during the Down.		
<i>Thanks For Your Cooperation And Patience!</i>		

Appendix C

Example of Standard Terminology to send in Email and Message for CRIS Down

There are nine various downtimes where standard terminology can be used in an e-mail to users and a message to the page operator informing them what is affected by the down.

The nine downtimes are:

1. ADT System Down
2. ADT Interface Down
3. Citrix Down
4. CRIS Down
5. CRIS Interface Down
6. CRIS Lab Interface Down
7. CRIS Lab System Down
8. CRIS Printing Down
9. CRIS Printing Delay

Appendix C

Continued: Example of Standard Terminology to send in Email and Message for CRIS Down

1. ADT System Down

Message to Page Operator:

The ADT System is / or will be down (**give date and time if you know in advance**). Admission, Discharge and Transfer (ADT) transactions between MIS and CRIS will not be operational.

E-Mail Message:

Admission, Discharge and Transfer (ADT) transactions between MIS and CRIS will not be operational.

Also, functions involving the Clinical Appointment System (CAS) will not be operational.

Users can still use CRIS; however, the following occurs:

Admission – MIS will be unable to initiate the new inpatient visit in CRIS, only the patient's previous outpatient and inpatient visits are visible when you do a patient search. ***You must wait until the patient is in the current inpatient visit before releasing orders or documenting.***

Transfers- The patient's CRIS location will not be transferred to their new location. Users can still document on the patient, but it will show up as the patient residing in their old location. For services, you must communicate with the ancillary departments (i.e. Dept. of Laboratory Medicine, Dept. of Transfusion Medicine, Nutrition, Pharmacy, Messenger and Escort) as to where the patient's is actually located.

Discharges-The discharge order will not cross over to MIS and the patient will remain on the unit's ***Patient List*** until the ADT system is operational.

CAS- You will be unable to book, cancel, view, status or reschedule any patient's appointment that is in the CAS system

What happens to transfers and discharge orders in CRIS during an ADT down time?

You may enter the orders and the orders will be retrievable in CRIS. The transfer and discharge orders /requests will queue up (back up) in CRIS and then cross over to MIS when the ADT system and interface becomes operational.

Appendix C

Continued: Example of Standard Terminology to send in Email and Message for CRIS Down

2. ADT Interface Down

Message to Page Operator:

The ADT Interface is / or will be down (**give date and time if you know in advance**). Admission, Discharge and Transfer (ADT) transactions between MIS and CRIS will not cross over.

E-Mail Message:

Admission, Discharge and Transfer (ADT) transactions between MIS and CRIS will not cross over.

Users can still use CRIS; however, the following occurs:

Admission – MIS will initiate the new inpatient visit in MIS; however it will not cross over to CRIS. The patient's previous outpatient and inpatient visits are visible when you do a patient search in CRIS. ***You must wait until the patient is in the current inpatient visit before releasing orders or documenting.***

Transfers- The patient's CRIS location will not be transferred to their new location. Users can still document on the patient, but it will show up as the patient residing in their old location. For services, you must communicate with the ancillary departments (i.e. Dept. of Laboratory Medicine, Dept. of Transfusion Medicine, Phlebotomy, Nutrition, Pharmacy, Messenger and Escort) as to where the patient's is actually located.

Discharges-The discharge order will not cross over to MIS and the patient will remain on the unit's ***Patient List*** until the ADT system is operational.

What happens to transfers and discharge orders in CRIS during an ADT down time?

You may enter the orders and the orders will be retrievable in CRIS. The transfer and discharge orders /requests will queue up (back up) in CRIS and then cross over to MIS when the ADT interface becomes operational.

Appendix C

Continued: Example of Standard Terminology to send in Email and Message for CRIS Down

3. Citrix Down

Message to Page Operator:

The Citrix system will be unavailable for use (**give date and time if you know in advance**).
During the down time CRIS and MIS will be operational only from Standard Clinical Desktop Computers (SCDs).

E-Mail Message:

During the Citrix down time, you will have access to CRIS & MIS only from Standard Clinical Desktop (SCDs) computers.

You CAN enter orders, document, print and retrieve information from the SCDs which are located on nursing units and ancillary departments (DLM, DTM, Pharmacy...) in designated areas.

Ancillary Systems such as: RIS, LIS, ECG, PACS, CITRIX, PYXIS, Dictation/ Transcription, IDMS & more will be operational and results will cross over to CRIS.

SunRay Computers will not have access to CRIS.

Email through Citrix will be unavailable for use during the downtime.

Remote access from off site will be unavailable.

Appendix C

Continued: Example of Standard Terminology to send in Email and Message for CRIS Down

4. CRIS Down

Message to Page Operator:

The CRIS system will be unavailable for use (give date and time if you know in advance). Please use Downtime procedure.

E-Mail Message:

- Please begin using Downtime (Manual) procedure.
- You will not have access to CRIS or MIS.
- Labels will not print out.
- You can NOT enter orders, document, print or retrieve information in either system (MIS and CRIS).
- Ancillary Systems such as: RIS, LIS, ECG, PACS, CITRIX, PYXIS, Dictation/ Transcription, IDMS & more will be operational but results will not cross over to CRIS.
- Please do not send non-emergent orders on the manual ordering forms during the down period.
- Please wait and enter non-emergent orders in CRIS after CRIS becomes operational.

You will need to call Departments to communicate the orders and obtain service.

Emergent Lab Order, Please Follow This Procedure:

1. Send the specimen to the lab with a manual Clinical Laboratory Ordering Record Form.
2. Do Not enter Emergency Orders into CRIS. The Lab will enter the orders on their end.
3. Keep a written record of the results called back to the unit.

All Other Emergent Orders Follow The Defined Manual Ordering Process By Service (Pharmacy, Imaging Services, Transfusion Medicine, Respiratory Care, Nutrition and All Other Clinical Services)

Please use the following forms to manually order or document:

- Ancillary Tests- Imaging Services/ECG/ Dental (NIH- 2353-3)
- Medical Records/ Doctor's Orders (SF508)
- Clinical Laboratory Ordering Record (NIH 2353-1)
- Inpatient Progress Notes (SF- 509)
- Outpatient Progress Notes (NIH-532)

Appendix C

Continued: Example of Standard Terminology to send in Email and Message for CRIS Down

5. CRIS Interface Down

Message to Page Operator:

There is/ will be a CRIS Interface Down (**give date and time if you know in advance**). CRIS and MIS are operational; however you will need to call Departments to communicate orders and obtain service.

E-Mail Message:

During a CRIS interface down, you will need to call Departments to communicate orders and obtain service.

CRIS and MIS will be operational during this down time. You CAN enter orders, document, and retrieve information and print; however, orders entered will queue up (back up) in CRIS and not cross over to the Ancillary Systems. Results from the Ancillary Systems, will not cross over to CRIS until the interface is operational.

The Ancillary Systems include:

- The ADT system
- Radiology Information System (RIS)
- Laboratory Information System (LIS)= Micro, Lab, Blood Bank, Anatomic Pathology
- Nutrition System (Cbord)
- ECG system
- Transcription System
- IDMS System

Please do not send non-emergent orders on the manual ordering forms during this period. It is suggested that users enter non-emergent orders after the interface becomes operational.

Lab Labels will not print during the downtime. You must enter the CRIS order number on an admission label to send the specimen.

During downtime the Department of Laboratory Medicine will call the nursing units with stat results.

The Department of Transfusion Medicine will call the nursing units when blood components are ready and with stat results.

Appendix C

Continued: Example of Standard Terminology to send in Email and Message for CRIS Down

6. CRIS Lab Interface Down

Message to Page Operator:

There is/ will be a CRIS Lab Order Interface Down (give date and time if you know in advance). Please call the Department of Laboratory Medicine (DLM) and the Department of Transfusion Medicine (DTM) to communicate orders and obtain service. Lab labels will not print out during this down time. Thank you.

E-Mail Message:

There will be a Laboratory Order Interface Down

CRIS and MIS will be operational during this time.

You will need to call the Department of Laboratory Medicine (DLM) and the Department of Transfusion Medicine (DTM) to communicate orders and obtain service. Lab labels will not print out during this down time. Results from the LIS, will not cross over to CRIS until the LIS system is operational.

You CAN enter orders, document, and retrieve information and print; however, orders entered will queue up (back up) in CRIS and not cross over to the selected Ancillary System. The Ancillary System includes:

- Laboratory Information System (LIS)= Micro, Lab, Blood Bank, Anatomic Pathology

Please do not send non-emergent orders on the manual ordering forms during this period. It is suggested that users enter non-emergent orders after the interface becomes operational. During downtime the DLM and DTM will call the nursing units with stat results.

Lab Labels will not print during the downtime. You must enter the CRIS order number on an admission label to send the specimen.

Appendix C

Continued: Example of Standard Terminology to send in Email and Message for CRIS Down

7. CRIS Lab System Down

Message to Page Operator:

There is/ will be a CRIS Lab System Down (**give date and time if you know in advance**). You will need to call the Department of Laboratory Medicine (DLM) and the Department of Transfusion Medicine (DTM) to communicate orders and obtain service. Lab labels will not print out during this down time. Thank you.

E-Mail Message:

There will be a Laboratory Information System (LIS) Down

CRIS and MIS will be operational during this time.

You will need to **call the Department of Laboratory Medicine (DLM) and the Department of Transfusion Medicine (DTM)** to communicate orders and obtain service. Lab labels will not print out during this down time. Results from the LIS, will not cross over to CRIS until the LIS system is operational.

You CAN enter orders, document, and retrieve information and print; however, orders entered will queue up (back up) in CRIS and not cross over to the selected Ancillary System. The Ancillary System includes:

- Laboratory Information System (LIS)= Micro, Lab, Blood Bank, Anatomic Pathology

Please do not send non-emergent orders on the manual ordering forms during this period. It is suggested that users enter non-emergent orders after the interface becomes operational. During downtime the DLM and DTM will call the nursing units with stat results.

Lab Labels will not print during the downtime. You must enter the CRIS order number on an admission label to send the specimen.

Appendix C

Continued: Example of Standard Terminology to send in Email and Message for CRIS Down

8. CRIS Printing Down

Message to Page Operator:

Present tense: The CRIS Printing system is down. CRIS and MIS are operational. Please call Departments to communicate the orders and obtain service

E-Mail Message:

CRIS and MIS will be operational during this time; however, transactions entered in CRIS will not print out.

You may enter orders and the orders will be retrievable in CRIS. The printing of the order requisition will queue up (back up) in CRIS until the printing system becomes operational.

You will need to call Departments to communicate the orders and obtain service.

Please implement back up procedures to blood bank for all blood component orders and blood pick up service requests.

During the printing down time, the following will not print:

- Admission Labels,
- Pharmacy Labels/ Medication orders in Pharmacy,
- Order Requisitions (all orders)
- Reports (i.e. Care plans)...

As noted, medication order entry is available, but delays in order/label generation in Pharmacy will occur. **During the printing down, Pharmacy won't fill new orders unless they are notified.** Please call Pharmacy for urgently needed medication.

Appendix C

Continued: Example of Standard Terminology to send in Email and Message for CRIS Down

9. CRIS Printing Delay

Message to Page Operator:

Present tense: There is a delay in CRIS Printing. CRIS and MIS are operational. Please call Departments to communicate the orders and obtain service

E-Mail Message:

CRIS Printing is operational but delayed

CRIS and MIS are operational during this time; however, transactions entered in CRIS are delayed in printing out.

You will need to call Departments to communicate the orders and obtain service.

Please implement back up procedures to blood bank for all blood component orders and blood pick up service requests.

You may enter orders and the orders will be retrievable in CRIS. The printing of the order requisition has queued up (back up) in CRIS and the following printouts are delayed:

- Admission Labels,
- Pharmacy Labels/ Medication orders in Pharmacy,
- Order Requisitions (all orders)
- Reports (i.e. Care plans)...

As noted, medication order entry is available, but delays in order/label generation in Pharmacy will occur. **During the delay in printing, Pharmacy won't fill new orders unless they are notified.** Please call Pharmacy for urgently needed medication.

Appendix D
Nursing and Patient Care Related Guidelines For Scheduled Down
CC Computer Shut Down for Emergency Maintenance
Insert Date at : p.m. – : a.m.

All computer systems (CRIS, ancillary systems, internet, and intranet) within the CC Data Center will experience intermittent down periods beginning **Date @ : p.m.** through **Date @ : a.m.** Here are some tips to help you prepare for this planned outage.

Communication During Computer Down-Time

1. Prior to the system going down, the Page Operator will announce the actual shutdown time and, will also make an announcement when CRIS has returned back to functioning capacity. The leadership staff will follow-up with a phone call to each PCU to verify the CRIS is working.
2. All attempts should be made to enter information into CRIS prior to **Date @ : p.m.** including nursing assessments and medication administration.
3. Please request physicians to enter new patient orders into CRIS prior to **Date @ : p.m.**
4. All communication will be conducted using the telephone or the Pneumatic Tube Stations.
5. Messenger and Escort will make hourly rounds to DLM to pick up and deliver lab results to PCU's.
6. Medical Record Documentation
 - a. ALL required forms will be on each PCU in a designated "COMPUTER SHUT-DOWN AREA." The forms include:
 - Doctor's Orders (Standard Form 508)
 - Clinical Laboratory Ordering Record NIH-2353-1 (05-04 or most current version)
 - Orders Manual: Ancillary Tests NIH-2353-3 (6-03)
 - Two (2) DLM Report Logs for recording lab results phoned to the PCU
 1. Clinical Chemistry Service Stat Report Log
 2. Hematology Service Stat Report Log
 - Inpatient Progress Notes (NIH-509 or STANDARD FORM 509)
 - Nursing Notes (Standard Form 510)
 - Instructions for Manual Input into Pyxis Medstation

Appendix D

Nursing and Patient Care Related Guidelines For Scheduled Down

MD Orders

1. After the computer system is shut down, all medical orders will need to be written on “Doctor’s Orders” (Standard Form 508) and signed and dated by the RN after they are read. Each set of written, verbal or telephone orders will require a date/time and the signature of the Licensed Independent Practitioner (LIP). If transcription is needed, the registered nurse will need to date/time and sign his/her signature at the bottom of the order set.
2. Each time an LIP writes a new medical order, a new order sheet must be used. The copies of the medical orders are sent to multiple departments such as sending copies to pharmacy and nutrition.
3. All lab orders requested during the computer shut down will be transcribed onto the Clinical Laboratory Ordering Record NIH-2353-1 (05-04 or most current version) by a prescriber or his/her authorized agent. At the bottom of this form, the RN transcribing the order will note under the LIP name whether this was a written, verbal, or telephone order.
4. Save all MCP’s and all Doctor’s Order sheets after the MCP has printed.
5. Attach all Doctor’s Order sheets with current the MCP to facilitate entering orders into CRIS once the system has returned.
6. When the CRIS system comes back up, check all written lab results with the printed copy to validate accuracy.

Nursing Documentation

1. During the down-time, use the Nursing Progress Report (Standard Form 510) for documenting patient assessments, etc.

Return of CRIS

1. When the CRIS comes back up:
 - a. An LIP or a registered nurse will enter all written, verbal, and telephone orders into CRIS, except emergent lab orders as they will be entered by DLM.
 - b. A nurse will:
 - Request a new Medical Care Plan (MCP) to validate the accuracy of all medical orders entered.
 - File the original manual copy of all order forms in the unit chart under “MD Orders.”
 - Document all nursing admission assessments, medications, blood products into the CRIS. If CRIS is down for a short time duration and the use of manual forms has not been implemented, then assessments should be entered into the system when it comes back.
2. The oncoming nurse will be responsible for double-checking all medical orders written during the CRIS down-time period. This process involves comparing for accuracy each manual medical filed in the unit chart against the current MCP. When completed, the nurse will initial, date and time the bottom of each order set.

Appendix D

Nursing and Patient Care Related Guidelines For Scheduled Down

Pharmacy

1. The Pyxis Medstation is available during shut down.
2. Any new orders or admissions will need to be manually entered (see attached instructions).
3. A record of patients manually entered into the Pyxis Medstation will be kept in the designated shut down area. The record is to be sent to pharmacy when the system comes back up (see attached).
4. After CRIS comes back up, all written and verbal orders must be entered into CRIS by the unit RN or MD.
5. A RN cannot enter Chemo/TPN orders. Make sure you request physicians to order chemo/TPN before 12 Noon.
6. A printout of 24-hour use on the Pyxis will be required to send to the Pharmacy by the end of the evening shift.
7. Communication with Pharmacy will be via phone and tube systems.
8. Pharmacy will call lab for any emergency results.
9. All written orders will be tubed to the Pharmacy during the shut down. A follow-up call to Pharmacy will be required to assure that pharmacy received **STAT orders**

Nutrition

1. Any transfers, new diet order, nutrition orders or changes to orders will need to be sent via the Pneumatic Tube System to Nutrition Services on the Standard Form 508 utilizing the above guideline for MD orders. Diet office personnel are not authorized to accept verbal orders.
2. All diet orders and transfers will be manually entered into the Nutrition Department Computer system (CBORD) by Nutrition Department personnel using the information provide on Standard Form 508.
3. After CRIS comes back up, all nutrition/diet orders must be entered into CRIS by the unit RN, MD or LIP.

Medical Records Department

1. If there is an emergent need for medical records, contact Admissions at (301) 496-3315.
2. All required documentation forms will be on each unit at the in a designated "Computer Shut Down Area."
3. The Administrative Coordinator on duty will have an extra supply of forms.

Appendix D

Nursing and Patient Care Related Guidelines For Scheduled Down

Department of Laboratory Medicine (DLM)

1. Please attempt to have physicians put in all requests for labs prior to the system shutting down in an effort to obtain a transmittal slip.
2. Any stat lab orders requested during the shut down will require you to send the lab specimen with a Clinical Laboratory Ordering Record NIH-2353-1 (05-04 or most recent version). No other form will be accepted. At the bottom of the order form under LIP signature, identify either written or verbal order.
3. One (1) order form per patient can be used for multiple DLM requests such as Chemistry, Hematology.
4. Apply a preprinted patient label from CRIS, admissions or a hand written label (include the patient's full name, medical record number and date of birth) on the specimen prior to sending it to the lab.
5. STAT lab results will be called to the unit by DLM. The unit RN will document the results on either the *Clinical Chemistry Service Stat Report Log* or the *Hematology Service Stat Report Log*. Forms will be distributed to PCUs prior to the shut down. The A/C on duty will have extra forms.
6. Communications with DLM will be via telephone and pneumatic tube system.
7. For specimen pickup you will need to call Messenger and Escort
8. All lab orders will be entered by the DLM. You will need to assure and validate that the orders are entered into the MCP when the system comes back up.

CHS

1. The Pyxis Supply Station may **not** be functioning during the shut down. Each unit has a key to the Pyxis Supply Station. Please note where your key is located as this is your means to obtain supplies.
2. CHS will have someone in house until the system comes back up

Imaging Sciences

The Radiology, Nuclear Medicine and PET Departments will be available for emergent test as the computer shut down will not affect their imaging equipment.

Department of Transfusion Medicine (DTM)

Orders received during the shut down will require a copy of the manual LIP order sent to the DTM. The RN will be required to call DTM to assure that the order is received. The DTM will call the nursing unit when the blood product is ready for pickup.

Appendix D

Nursing and Patient Care Related Guidelines For Scheduled Down

Adding a New Patient to Pyxis

In the event that a patient's name does not appear on the Pyxis Screen, the user will manually add the patient's full name and ID number to Pyxis Medstation.

1. From the main Menu, select Remove.
2. If the patient you want is not listed:
 - a. From the Remove Meds, Return Meds, or Waste Meds screen, Press the ADD PATIENT button. The Add A Patient screen appears.
 - b. Enter the patient's last name, and select Enter to go to the First Name Field.
 - c. Enter the patient's first name, and select Enter to go to the patient ID field.
 - d. Enter patient's medical record number.
 - e. Press Accept.

Appendix D

Nursing and Patient Care Related Guidelines For Scheduled Down

Record of Patients manually added in Pyxis

Please print clearly in all documentation fields.

Please return this record to pharmacy when CRIS is in operation.

[illegible]

Notes:

Appendix D
Nursing and Patient Care Related Guidelines For Scheduled Down

“Quick” Computer Shut Down Check List

- ☐ Identify Computer Shut Down Area in the nurse’s station
- ☐ Assure that you have the required manual forms
 - ☐ MD order sheets (Standard Form 508)
 - ☐ Nursing Notes (Standard Form 510)
 - ☐ Clinical Laboratory Ordering Record (NIH-2353-1- 05-04)
 - ☐ Chemistry and Hematology Stat report log sheet
 - ☐ Instructions for manual input into meds pyxis
 - ☐ Record of patients manually added in Pyxis
- ☐ Check med pyxis for access during the shut down (pharmacy for problems)
- ☐ All LIP orders have a date, time and LIP signature
- ☐ All LIP orders transcribed have RN signature, date and time
- ☐ All Lab specimens must be accompanied with a Clinical Laboratory Ordering Record (NIH-2353-1)
- ☐ When the computer system comes up the following is entered into CRIS
 - ☐ All written/verbal LIP orders
 - ☐ Meds, bld/bld products and admissions notes
 - ☐ All orders entered into CRIS are verified against a new MCP
 - ☐ All orders are double checked for accuracy by the night shift, initialed and dated

***** Please read computer shut down packet for details**

Appendix E

Example of System Down Communicate Process

This is to assist DCRI and DNA with maintaining communication during unscheduled downs. Until revisions to the Downtime Policy are completed, please follow the interim plan below:

If ADT is down (TO MIS, ADT FROM MIS2):

If unable to restart the ADT interface within 10 minutes, DNA Computer Operations will call:

1. The on-call interface analyst (Yenshei Liu or Tony Barnes) to coordinate.

If the system has not been restarted within 15 minutes, DNA Computer Operations will:

1. Call the NIH Page Operator and have them make an overhead announcement that the ADT Interfaces are down. This announcement should repeat every 15 minutes until the system is operational.
 - a. Message: “The ADT Interface is down.”
 - b. If users call operations, the CRIS On-Call analyst or Computer Support Staff: You can state that the down affects discharges and transfers from CRIS but will queue up and then load to MIS when the interface becomes operational. Users can still use CRIS.
2. Call the DCRI Computer Support Staff (496-8400) and give status every 30 minutes.
3. Send initial e-mail to CC System Notification and CC-ISD IE Notice List Serv identifying that the ADT interfaces are down. This gets the message to all other interfaced groups.
4. Call Susy Postal or Rubi Defensor (during regular working hours) or the CRIS Analyst On-Call (during evening, nights, holidays, and weekends) with status. They will send out an e-mail through the CC System Notification and CC-ISD IE Notice List Serv, to users communicating down status if it is greater than 30 minutes.
5. Call Joyce Yarrington or Jon McKeeby every 30 minutes (during regular working hours). The on-call interface analyst will use their best judgment to call during evening, nights, holidays, and weekends.
 - a. Joyce Yarrington or Jon McKeeby will call Dr. Rosenfeld, Dr. Luxenberg, and Dr. Romano to give status every 30 minutes (during regular working hours).
6. Send e-mail to CC System Notification and CC-ISD IE Notice List Serv when ADT is operational.
7. Please call the NIH Page Operator to make an overhead announcement that the ADT interfaces are operational.

If ADT is down (TO_MIS, ADT_FROM_MIS2) for more than 2 hours we will need to consider calling a down for all of SCM and notifying Dr. Rosenfeld, Dr. Luxenberg, and Dr. Romano.

If SCM interfaces are down:

Tony Barnes, Tom Dawson and Dempsey Dunn (NT Administrator on-call during evening, nights, holidays and weekends) must be called to coordinate. They will call others as needed.

Call Joyce Yarrington, Jon McKeeby, Dr. Rosenfeld immediately.

1. Operations to call the NIH Page Operator and have them make an overhead announcement that the CRIS Interfaces are down. This announcement should repeat every 15 minutes until the system is operational.
 - a. Message: The CRIS Interfaces are down.
 - b. If users call operations, the CRIS on-call analyst or Computer Support Staff : You can state that the down affects orders and results from CRIS to and from the ancillary systems.
2. Tony Barnes will call DLM and DTM identifying that they need to call STATS to the floor. Also identify that they may get specimens with no order message.

3. Call the Radiology and identify that the interfaces are down. Operations can call Page operator to obtain radiology contact information.
4. Operations to send initial e-mail to CC System Notification and CC-ISD IE Notice List Serv identifying that the interfaces are down. This gets the message to all other interfaced groups (EKG, Softmed, IDMS, etc.).
5. Call Susy Postal or Rubi Defensor (during regular working hours) or the CRIS Analyst On-Call (during evening, nights, holidays, and weekends) with status. They will send out an e-mail through the CC System Notification and CC-ISD IE Notice List Serv, to users communicating down status if it is greater than 30 minutes.
6. Call the CRIS helpdesk (496-8400) and give status every 30 minutes.
7. Call Joyce Yarrington or Jon McKeeby every 30 minutes (during regular working hours), or use best judgment to call during evening, nights, holidays, and weekends.
 - a. Joyce Yarrington or Jon McKeeby will call Dr. Rosenfeld, Dr. Luxenberg, and Dr. Romano to give status every 30 minutes (during regular working hours).
8. Send e-mail to CC System Notification and CC-ISD IE Notice List Serv when operational.
9. Operations to call the NIH Page Operator to make an overhead announcement that CRIS interfaces are operational.

If SCM interfaces are down for more then 2 hours notify the following people: Joyce Yarrington or Jon McKeeby Dr. Rosenfeld, Dr. Luxenberg, and Dr. Romano.

If IEdev or QDX interfaces are down:

Tony Barnes must be called to coordinate. They will call others as needed.

Call Joyce Yarrington, Jon McKeeby, Dr. Rosenfeld immediately.

1. Operations to call the NIH Page Operator and have them make an overhead announcement that the CRIS Interfaces are down. This announcement should repeat every 15 minutes until the system is operational.
 - a. Message: The CRIS Interfaces are down.
 - b. If users call operations, the CRIS on-call analyst or Computer Support Staff : You can state that the down affects orders and results from CRIS to and from the ancillary systems.
2. Tony Barnes will call DLM and DTM, identifying that they need to call stats to the floor. Also identify that they may get specimens with no order message.
3. Call the Radiology and identify that the interfaces are down. Operations can call Page operator to obtain radiology contact information.
4. Operations can call Pharmacy.
5. Operations to send initial e-mail to CC System Notification and CC-ISD IE Notice List Serv, identifying that the interfaces are down. This gets the message to all other interfaced groups (EKG, Softmed, IDMS, etc.).
6. Call Susy Postal or Rubi Defensor (during regular working hours) or the CRIS Analyst On-Call (during evening, nights, holidays and weekends) with status. They will send out an e-mail through the CC System Notification and CC-ISD IE Notice List Serv, to users communicating down status if it is greater than 30 minutes.
7. Call the CRIS helpdesk (496-8400) and give status every 30 minutes.
8. Call Joyce Yarrington or Jon McKeeby every 30 minutes (during regular working hours), or use best judgment to call during evening, nights, holidays and weekends.
 - a. Joyce Yarrington or Jon McKeeby will call Dr. Rosenfeld, Dr. Luxenberg, and Dr. Romano to give status every 30 minutes (during regular working hours).
9. Send e-mail to CC System Notification and CC-ISD IE Notice List Serv when operational.

10. Operations to call the NIH Page Operator to make an overhead announcement that CRIS interfaces are operational.

If IEdev or QDX interfaces are down for more than 2 hours notify the following people: Joyce Yarrington or Jon McKeeby Dr. Rosenfeld, Dr. Luxenberg, and Dr. Romano.

If SCM is down:

Tom Dawson, Tim Maloney, Dempsey Dunn, Tony Barnes must be called to coordinate. They will call others as needed.

Call Joyce Yarrington, Jon McKeeby, Dr. Rosenfeld immediately.

1. Operations to call the NIH Page Operator and have them make an overhead announcement that the CRIS system is down. This announcement should repeat every 15 minutes until the system is operational.
 - a. Message: CRIS is down.
 - b. If users call operations, the CRIS on-call analyst or Computer Support Staff : You can state that the system is down and we are working on a resolution.
2. Tony Barnes will call DLM and DTM, identifying that they need to call stats to the floor. Also identify that they may get specimens with no order message.
3. Call the Radiology and identify that the interfaces are down. Operations can call Page operator to obtain radiology contact information.
4. Operations can call Pharmacy.
5. Operations to send initial e-mail to CC System Notification and CC-ISD IE Notice List Serv identifying that the CRIS is down. This gets the message to all other interfaces (EKG, Softmed, IDMS, etc.).
6. Call Susy Postal or Rubi Defensor (during regular working hours) or the CRIS Analyst On-Call (during evening, nights, holidays and weekends) with status. They will send out an e-mail through the CC System Notification and CC-ISD IE Notice List Serv, to users communicating down status if it is greater than 30 minutes.
7. Call the CRIS helpdesk (496-8400) and give status every 30 minutes.
8. Call Joyce Yarrington or Jon McKeeby every 30 minutes (during regular working hours), or use best judgment to call during evening, nights, holidays, and weekends.
 - a. Joyce Yarrington or Jon McKeeby will call Dr. Rosenfeld, Dr. Luxenberg, and Dr. Romano to give status every 30 minutes (during regular working hours).
9. Send e-mail to CC System Notification and CC-ISD IE Notice List Serv when operational.
10. Operations to call the NIH Page Operator to make an overhead announcement that CRIS is operational.

If SCM Report Services, Label Printing, Order Generation Services or other SCM Functionality is down:

Tom Dawson, Tim Maloney, and Dempsey Dunn (NT Administrator on-call during evening, nights, holidays and weekends) must be called to coordinate. They will call others as needed.

- 1 Those involved in the problem will decide if Operations needs to call the NIH Page Operator and have them make an overhead announcement that the CRIS is down.
 - a. Message: We are working on the message so in the meantime no down needs to be called. Still do the other tasks.
 - b. If users call operations, the CRIS on-call analyst or Computer Support Staff : You can state that there are CRIS Services down and we are working on a resolution.
- 2 Ancillary departments will be called if necessary.
- 3 Call the CRIS helpdesk (496-8400) during regular working hours and give status every 30 minutes.
- 4 Call Susy Postal or Rubi Defensor (during regular working hours) or the CRIS Analyst On-Call (during evening, nights, holidays and weekends) with status. They will send out an e-mail through the CC System Notification and CC-ISD IE Notice List Serv, to users communicating down status if it is greater than 30 minutes. If necessary
- 5 If service has not resumed within **one hour**, call Joyce Yarrington or Jon McKeeby.
- 6 Send e-mail to CC-CRIS Core administrator list when operational.

If Denali or MAX goes down.

Tad Yenegeta or Chris Klein, Jim Oseth or Steve Bergstrom, Tony Barnes or Yenshei Liu must be called to coordinate. They will call others as needed.

1. Notify Operations (496-7525).
2. Turn off all threads with cdr in name.
3. Tad Yenegeta or Chris Klein must make sure server is operational.
4. Jim Oseth or Steve Bergstrom must make sure Sybase is operational
5. Tony Barnes and Yenshei Liu need to make sure no data is lost before restarting. They may need to reload data first. Tony or Yenshei should e-mail Murali if occurs in the middle of the night so he can check his processes.

No need to call down.

If Sybase on Denali goes down

Jim Oseth or Steve Bergstrom, Tony Barnes or Yenshei Liu must be called to coordinate. They will call others as needed.

1. Notify Operations (496-7525).
2. Turn off all threads with cdr in name.
3. Jim Oseth or Steve Bergstrom must make sure Sybase is operational
4. Tony Barnes and Yenshei Liu need to make sure no data is lost before restarting. They may need to reload data first. Tony or Yenshei should e-mail Murali if occurs in the middle of the night so he can check his processes.

Appendix F

Impact on the CRIS Core and/or the MIS System when System Components or Servers are down.

Legend:

Component Name	Name of System Component
Description	Description of the function that the system component provides in respect to the CRIS Core and MIS systems.
Firewall Location	Location of component in relation to the CC Checkpoint Firewall (Escher). Behind mean that the system component is protected from access by rules on the firewall.
Impact On CRIS Core	The affect a down of the System Component on has to the CRIS Core System.
Impact On MIS	The affect a down of the System Component on the MIS System
Responsible Party	The persons whom should be notified when the system component is down.

Component Name	Description	Firewall Location	When Component is Down		Responsible Party
			Impact On CRIS Core	Impact On MIS	
CC Checkpoint Firewall (Protects Clinical Data)	Maintains Security	N/A	No User Access to CRIS Core. No printing from CRIS Core. No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts. No ADT/CAS Interface Transactions.	DNA Tadele Yenegeta Chris Klein
CC Domain Controllers	SCM MSQM is installed on the Domain Controllers and is used by the interfaces to send and receive messages.	In front if NIH/CC Checkpoint Firewall	No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	N/A	DNA and DCRI Dempsey Dunn Tony Barnes Jon McKeeby
CC Network PIX Firewall	Main CC Network.	N/A	No User Access to CRIS Core. No printing from CRIS Core. No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts. No ADT/CAS Interface Transactions.	DNA Joyce Yarrington Kelly Neadow Jason Chan
CCAXPENT	Enterprise	Behind NIH/CC Checkpoint Firewall	No Administration Configuration changes to SCM or Installation of New Clients.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCSCMDMUL	SCM Multum Server	Behind NIH/CC Checkpoint Firewall	Loss of drug interaction checking for CRIS Core users.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPCDS	SCM CDS/Order Generation	Behind NIH/CC Checkpoint Firewall	Repeat orders will not get created for CRIS Core orders.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPEXE	SCM HL7	Behind NIH/CC	No Interface Transactions	N/A	DNA and DCRI

Component Name	Description	Firewall Location	When Component is Down		Responsible Party
			Impact On CRIS Core	Impact On MIS	
	Executive	Checkpoint Firewall	in or out of CRIS Core: Orders, ADT, Results, Statuses.		Dempsey Dunn Tony Barnes Jon McKeeby
CCXAPMGR	SCM HL7 Manager	Behind NIH/CC Checkpoint Firewall	No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	N/A	DNA and DCRI Dempsey Dunn Tony Barnes Jon McKeeby
CCXAPMST1	Master	Behind NIH/CC Checkpoint Firewall	No Access To CRIS SCM.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPMST2	Master Server	Behind NIH/CC Checkpoint Firewall	No Access To CRIS SCM.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPPRT1	SCM Print Servers	Behind NIH/CC Checkpoint Firewall	No printing from CRIS Core.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPPRT2	SCM Print Servers	Behind NIH/CC Checkpoint Firewall	No printing from CRIS Core.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPRPT	SCM Report	Behind NIH/CC Checkpoint Firewall	No Printing of Reports.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CCXAPVOCA B	SCM Vocabulary Manager	Behind NIH/CC Checkpoint Firewall	Loss of the ability to process MLM, which are rules that check for drug interactions upon the entry of orders.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
CITRIX	Client access for CRIS	N/A	No User Access via CITRIX. Possible thru SCD clients.	Client access for Web/MIS. No ADT/CAS User Access.	DNA Doug Butters Mark Bradley
CRIS-SAN	SCM Storage	Behind NIH/CC Checkpoint Firewall	No patient data available from CRIS Core. All CRIS Core System Functions may be affected.	N/A	DNA and DCRI Dempsey Dunn Tim Maloney
Degas	MIS Print Server and MIS Interface Server	Behind NIH/CC Checkpoint Firewall	N/A	No ADT/CAS MIS Printouts. No ADT/CAS Transactions: All Ancillary Systems-CRIS Core, RIS, LIS, SoftMed, Wristband.	DNA and DCRI Tadele Yenegeta Chris Klein Steve Moore
IBM 3172	Token Ring Access TCP/IP access to Rose	Behind NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts. No ADT/CAS Interface Transactions. No FTP to/ from ROSE.	DNA and DCRI DNA Operations Myoung Lee Tim Maloney
IE	Interface Engine Server	Behind NIH/CC Checkpoint Firewall	No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	No ADT/CAS Interface Transactions: All Ancillary Systems.	DNA and DCRI Tadele Yenegeta Chris Klein Tony Barnes Jon McKeeby

Component Name	Description	Firewall Location	When Component is Down		Responsible Party
			Impact On CRIS Core	Impact On MIS	
IE Care Data	Interface Engine Application	Behind NIH/CC Checkpoint Firewall	N/A	No ADT Interface Transactions. CDW, Wristband, PYXIS.	DCRI Tony Barnes Jon McKeeby
IE CloverLeaf	Interface Engine Application	Behind NIH/CC Checkpoint Firewall	No Interface Transactions in or out of CRIS Core: Orders, ADT, Results, Statuses.	No ADT/CAS Interface Transactions: All Ancillary Systems.	DCRI Tony Barnes Jon McKeeby
Lizzy IBM 390	Backup Down Mainframe for MIS At CIT	Behind NIH/CC Checkpoint Firewall	N/A	Backup MIS ADT/CAS Down	DNA Pam Carter Tim Maloney
Mac/MIS	MIS Client for MAC	N/A	N/A	No ADT/CAS User Access via Web/MIS.	DCRI Jose Miletti
MIS Application	Mainframe for MIS	Behind NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts. No ADT/CAS Interface Transactions.	DCRI Tim Maloney
Monet	Domain Name Server used within CC	In front if NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access to MIS for users using Monet as name server: Majority ADT/CAS users.	DNA Tadele Yenegeta Chris Klein
Open Connect Application	Talks SNA to TCP/IP to control MIS Access, MIS Printing and MIS Interfaces.	Loaded on Zeus and Degas	N/A	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts. No ADT/CAS Interface Transactions.	DNA and DCRI Tadele Yenegeta Chris Klein Myoung Lee Tim Maloney
Operation Client Terminals	Used by operators to monitor and maintain MIS	In front if NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access by operators. Users can use different terminal.	DNA Bertram Brown
Rose IBM 390	Mainframe for MIS	Behind NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access to MIS: No ADT/CAS MIS Printouts. No ADT/CAS Interface Transactions.	DNA and DCRI Pam Carter Tim Maloney
SCD	Standard Clinical Desktop	N/A	No User Access via Standard Clinical Desktop: Majority of users.	No ADT/CAS User Access via Standard Clinical Desktop. Majority of users.	DNA Bertram Brown
Secure ID	Security Authorization System	In front if NIH/CC Checkpoint Firewall	N/A	No MIS user access to unregistered workstations. No access by support users on-call. No access by operators to interface	DNA and DCRI Tadele Yenegeta Chris Klein Jose Miletti

Component Name	Description	Firewall Location	When Component is Down		Responsible Party
			Impact On CRIS Core	Impact On MIS	
				monitor and control programs on I.E. and Degas.	
SunRay Clients	Client access for CRIS	N/A	No CRIS Core User Access via Sunray. Possible thru CITRIX.	No ADT/CAS Access to MIS User Access via Sunray. Possible thru CITRIX.	DNA Tadele Yenegeta Chris Klein
Token Ring Network (MAU and Nodes)	MIS System Control and	Behind NIH/CC Checkpoint Firewall	N/A	No ADT/CAS Access to MIS:. No ADT/CAS MIS Printouts.	DNA and DCRI DNA Operations Myoung Lee Tim Maloney
Web/MIS	MIS Client for Web	N/A	N/A	No ADT/CAS User Access via Web/MIS.	DCRI Jose Miletti
Zeus	Web MIS Server and MIS User Access Server	In front if NIH/CC Checkpoint Firewall	N/A	No ADT/CAS User Access via Web/MIS or Mac/MIS.	DNA and DCRI Tadele Yenegeta Chris Klein Steve Moore

Appendix F (Continued)

Appendix G

Impact on Ancillary Systems when the CRIS Core and/or the MIS System are Not Operational.

Legend:

Ancillary System	Name of System Component
Description	Description of function that the Ancillary System provides.
Impact When CRIS Core is Down	The affect to the Ancillary System when CRIS Core is down.
Impact When MIS is Down	The affect to the Ancillary System when MIS is down.
Responsible Party	The persons whom should be notified when the Ancillary system is down.

Ancillary System	Description	Impact When CRIS Core is Down	Impact When MIS is Down	Responsible Party
CDW	Clinical Data Warehouse – Sybase databases common, cllab, cdr_new	Orders from CRIS and results from Ancillary Systems are not loaded into CDR.	Admissions, transfers and discharges(ADT) transactions from MIS are not loaded into CDR.	DNA and DCRI Tadele Yenegeta Chris Klein Jon McKeeby
RIS	Radiology Information System	Orders are not sent from CRIS and results are not sent to CRIS.	ADT transactions are not sent from MIS.	Harvey McDonald
LIS (Micro, Lab, Blood Bank, Anatomic Pathology)	Laboratory Information System	Orders are not sent from CRIS and results are not sent to CRIS.	ADT transactions are not sent from MIS.	Earle Barnes Tony Barnes Chung-Hee Row Kathy Roden Boyd Conley
EKG	EKG System	Orders are not sent from CRIS and results are not sent to CRIS.		DNA and DCRI Barrett Grieb Tony Barnes
SoftMed	Transcription System	Orders are not sent from CRIS and results are not sent to CRIS.	ADT transactions are not sent from MIS.	DNA and DCRI Barrett Grieb Tony Barnes Jon McKeeby
CBORD	Nutrition System	Allergies and Orders are not sent from CRIS to CBORD.	ADT transactions are not sent from MIS.	DNA and DCRI Dempsey Dunn Jim Oseth Tony Barnes Jon McKeeby
MIS	ADT/CAS	ADT transactions from MIS are not sent to CRIS. ADT transactions are not received from CRIS.		DNA and DCRI DNA Operations Tony Barnes Jon McKeeby
PYXIS	Pharmacy Dispensing System		ADT transactions are not sent from MIS.	DCRI Tony Barnes
WristBand/Embosser	WristBand Creation		ADT transactions are not sent from MIS.	DCRI Jon McKeeby
CRIS Core	Order Entry Documentation and Retrieval system		ADT transactions are not received from MIS. ADT transactions from SCM are not sent to MIS.	DNA and DCRI DNA Operations Tony Barnes Jon McKeeby